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QUALIFICATIONS AND EXPERIENCE REQUIRED OF HARBOR TRANSPORT
AND MERCHANT MARINE WORKERS IN YUGOSLAVIA

In Yugoslavia, the provisional classification of positions into groups is to serve as a basis for the transfer of workers to new positions in harbor transport and the merchant marine, according to the degree of specialization and in accordance with the provisions of the Decree on the Technical Training of Workers. Since this classification has been done without sufficient testing in the field, some shortcomings and even some incorrect position classifications may appear. These inadequacies may turn up where the position is not sufficiently described, incorrectly designated, or not designated at all.

Consequently, the classification and nomenclature of positions are published in a provisional form, to leave sufficient time, in the period between the reassignment of workers to positions and the time when the new system of wages is put in effect, to discover all deficiencies and shortcomings and to take the steps necessary for their elimination. The permanent groupings and designations must be worked out by 31 March 1951 so they may serve as a basis for the reassignment of workers into pay grades.

In reclassification, the reassignment of duties among the various groups is to be accomplished on the basis of the proficiency required for performance of all duties within the respective group, and the length of time required for a worker to acquire the skill necessary for a given position.

All other criteria formerly used in group classification, such as the degree of difficulty and unhealthful or dangerous working conditions, will be subject to special regulations and therefore are omitted completely.

The new classification is not set up according to pay categories, but according to the qualifications required, which will provide the basis for determining the base-pay portion of the worker's total pay.

The various positions and grades presuppose that, in a category, a worker of a higher group possesses the same qualifications required for subordinate positions in the group.

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To prepare the material necessary for the final classification, all enterprises and higher economic associations, or the administrative-operational managements of enterprises which are not associated, will proceed in the following manner:

1. They will make suggestions, especially in regard to errors and inadequacies in the classification. Special attention is to be given to position designations, as well as to the need for creating new positions. In the latter case, concrete suggestions are to be made.
2. When classification is completed, the enterprise will review its suggestions to determine whether they are really basic.
3. Basic and detailed suggestions for correcting shortcomings are to be forwarded to the higher echelon economic association not later than 31 January 1951.
4. The higher echelon association will collect and compile the suggestions from all subordinate enterprises and will forward suggested changes to the ministry concerned by 15 February 1951. Ministries charged will make up new position classifications based on these suggestions and, with the approval of the federal Ministry of Labor, will issue them by 31 March 1951.

Provisional position classifications in maritime transportation are as follows:

Harbor Transport Workers

Group I - Longshoreman Helper

Previous work experience: 3 months as an ordinary laborer in a harbor.

Qualifications: Must have knowledge of tools and harbor equipment; servicing of mechanized harbor equipment in normal daily work; and methods for handling, storing, and securing one type of cargo. Must know harbor regulations.

Duties: Loads and unloads one of the main cargo groups (dispersed cargo, lumber, or general freight) with mechanized harbor equipment, and helps longshoremen of higher grades with other harbor-transport work.

Minimum period in grade: 6 months.

Group II - Semitrained Longshoreman

Qualifications: Must have knowledge of operation and servicing of mechanized harbor equipment for loading all types of cargo (except heavy cargo weighing over 500 kilograms per piece, over 7 meters long, and over 10 cubic meters in volume, and fragile, expensive, and dangerous cargo, such as machines, art objects, explosives, etc.); must have knowledge of classification, measurement, weighing, and marking of cargo, and must know the basic regulations for loading cargo on freight cars.

Duties: Loads and unloads all except special kinds of cargo with the use of mechanized equipment; performs various supplementary tasks in handling cargo, such as classifying, weighing, marking, etc; and helps longshoremen of higher grade with other harbor transport work.

Minimum period in grade: 15 months.

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Group III - Trained Longshoreman

Qualifications: Must have knowledge of (1) the organic structure of the harbor as regards loading of all except special cargoes and (2) harbor-seaman jobs, such as mooring ship at pier, tying knots, splicing, etc.; must have basic knowledge of ship loading and unloading facilities, such as cranes, hoists, holds, etc.; must have basic knowledge of the types of cargo by assortment and external appearance.

Duties: Loads and unloads all except special types of cargo; directs (by signals with one hand) a group of workers in this work; operates a ship's crane; and assists workers of a higher grade with other harbor transport work.

Minimum period in grade: 18 months.

Group IV - Skilled Longshoreman

Qualifications: Must have knowledge of the methods of using and servicing all mechanized harbor equipment for loading all kinds of cargo, including special types; must have general knowledge of ships, and a detailed knowledge of all ship loading and unloading equipment and hold areas, shipping characteristics of goods, such as assortment, standard packing, tonnage per cubic meter, volume per ton, storage regulations, etc.; must have knowledge of Yugoslav and foreign weights and measures; must have knowledge of administrative work in loading, such as work lists, checkers' reports, etc.; and must have knowledge of work standards, organization of cargo handling on a ship or in a warehouse (preparation of loading or unloading area and cargoes), and basic regulations or maritime law pertaining to harbor operations.

Duties: Loads and unloads all types of freight, including special types, and organizes, prepares, and performs loading and unloading of a ship or a harbor warehouse.

Operators of Mechanized Harbor Equipment

Group I - Assistant Operator of Mechanized Harbor Equipment

Previous work experience: 3 months as an ordinary laborer in a harbor.

Qualifications: Must have knowledge of the basic characteristics of simple mechanized harbor equipment (warehouse elevator, loading cart, etc.); the operation, cleaning, and lubrication of such equipment; and how to keep records of work performed by these machines. Must know harbor regulations.

Duties: Operates simple mechanized harbor equipment (electric crane) and cleans and lubricates mechanized harbor equipment.

Minimum period in grade: 6 months.

Group II - Semitrained Operator of Mechanized Harbor Equipment

Qualifications: Must have knowledge of the basic characteristics of complicated mechanized harbor equipment (electric crane) or the basic characteristics of a large number of simple machines and their operation. Must have a basic knowledge of the methods of handling cargo in a harbor.

Duties: Operates a simple type of electric crane (fixed range, without grab) or several other simple machines. Assists in the operation of complicated machines and their maintenance (minor repairs).

Minimum period in grade: 15 months.

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Group III - Trained Operator of Mechanized Harbor Equipment

Qualifications: Must have knowledge of crane equipment and its utilization (dogs, grabs with one or several cables, electromagnets for lifting iron cargo, etc.); must have ability to operate, under supervision, an electric crane with adjustable range, and an electric crane with grab; and must know how to keep a daily record of a crane's work performance.

Duties: Operates, without supervision, a simple electric crane (fixed range, without grab); operates an electric crane with adjustable range and a crane with grab under supervision of a crane operator of higher grade; and keeps a daily record of crane work performance.

Minimum period in grade: 18 months.

Group IV - Skilled Operator of Mechanized Harbor Equipment

Qualifications: Must have a detailed knowledge of the mechanical construction and operation of all electric loading equipment; the basic work of assembling and dismantling a crane, etc.; and the basic work of electromechanics. Must have a basic knowledge of the organization of loading of all types of cargo.

Duties: Operates and maintains electric equipment in harbors and does minor repairs without supervision.

Minimum period in grade: 36 months.

Group V - Unsupervised Operator of Mechanized Harbor Equipment

Qualifications: Must have ability to plan the utilization and preparation of a group of mechanized loading facilities and must have knowledge of the organization and supervision of ordinary repair work.

Duties: Organizes and directs (1) group operations employing mechanized port equipment and (2) ordinary repairs on machinery.

Navigation Branch Deck Service**Group I - Unskilled Deck Seaman**

Previous work experience: 3 months of work in a harbor or as a fisherman.

Qualifications: Must have a knowledge of various types of vessels; must be able to row and swim; must know way about in a ship; must have knowledge of duties in case of fire, leaks, or abandoning of ship; and must be able to use rescue equipment.

Duties: Does simple maintenance of ships and equipment.

Minimum period in grade: 6 months.

Group II - Semitrained Deck Seaman

Qualifications: Must have knowledge of standard ship's equipment, facilities, and tools for ship maintenance and must know how to moor a ship.

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Duties: Prepares the ship for loading and unloading cargo (opens, closes, covers, and cleans holds, etc.); handles lines and steel cables while under way and during tying up; handles anchor chains; serves on board; cleans bilge; and stands night watches aboard ship in port.

Minimum period in grade: 15 months.

Group III - Trained Deck Seaman

Qualifications: Must have a knowledge of the ship's equipment as a whole; must be able to tie knots and make splices and stitch canvas for sails and waterproof covers; must know how to operate hoists and cranes; and must have a knowledge of steering equipment.

Duties: Performs all deck duties (removes rust, does calking, paints ship parts with various types of paint, etc.); works in the holds and on ship cranes during loading and unloading; serves as helmsman when necessary; and operates the ship hoist when mooring and docking the ship.

Minimum period in grade: 2 years.

Group IV - Skilled Deck Seaman

Qualifications: Must be able to repair, dismantle, and assemble each part of the portable and stationary ship equipment; must know how to steer by compass reading and by celestial navigation; must know the basic principles of coastal and sea navigation; must be able to find position on a chart and use auxiliary navigation instruments (goniometer, sounding line, bathometer, and tachometer); must have a knowledge of signaling by flag semaphore and Morse code; and must be able to handle sailboats and motorships.

Duties: Does helmsman duty at sea; in port, supervises loading, unloading, and stowing of cargo on board ship; and performs complex deck duties concerned with maintenance of the ship and its equipment.

Minimum period in grade: 3 years.

Group V - Deck Foreman

Qualifications: Must be able to direct all deck duties before and after getting under way; must know the methods of and facilities for maintaining specific parts of the ship and its equipment; must know the use of all lines and steel cables and their characteristics; must be able to sew and mend all ship's canvas; must know all the methods of mooring a ship and loading various kinds of cargoes; must know how to direct the preparatory work on holds, cranes, and other equipment used for loading and unloading cargo; and must be able to perform simple administrative work aboard ship.

Duties: Performs the most complex deck duties connected with maintenance of the ship and its equipment; directs all deck work and assigns seamen to work stations; has custody of deck stores; is responsible for water level in tanks; directs anchoring; is responsible for ship's lines in port; and performs simple administrative work.

Deck Service on Service Craft

Group IV - Skilled Deck Seaman, Service Craft

Previous work experience: 2 years as a trained deck seaman.

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Qualifications: Must have a knowledge of the basic characteristics, equipment, and work of service craft, securing ships at anchorage and moorage, moving the ship while it is at work, preparatory work for towing, all seaman duties on service craft, and ship administration.

Duties: Prepares ship for work; lays up ship after completion of assignment; secures ship's cargo; does work preparatory to towing; directs work and assigns seamen to work stations; performs complex duties concerned with the maintenance of a service craft, its equipment, and facilities; has custody of the ship's supply room; and does administrative work.

Minimum period in grade: 3 years.

Group V - Deck Foreman, Service Craft

Qualifications: Must have a knowledge of work done on a service craft in all stages of various kinds of underwater construction work; maintenance, assembly, and dismantling of service machinery, ports, and instruments; basic navigation principles; sailing characteristics of various types of service craft during towing, and procedures for securing ship and cargo against accidents; work safety regulations and first aid; and must be able to use the ship's pharmacy.

Duties: Directs work on ships for specified service purposes; is responsible for proper functioning and maintenance of service equipment aboard ship; is responsible for safe working conditions; demonstrates first-aid methods; and is in charge of the ship's pharmacy.

Engineer Service on Steamships

Group II - Semitrained Seaman Steamship Engineer

Previous work experience: 9 months as an unskilled deck seaman.

Qualifications: Must be able to handle tools and equipment relating to fuel storage tanks; must know steps to take in case of spontaneous combustion; must know the methods of boiler firing with liquid fuel; and must know the main characteristics of boiler equipment.

Duties: Carries coal from hold to boiler room; cleans out ashes; keeps pipes and boilers clean; removes rust from engines, boilers, ducts, and other engine areas; and cleans fuel filters, tanks, and all engine areas.

Minimum period in grade: 15 months.

Group III - Trained Seaman Steamship Engineer

Qualifications: Must have knowledge of the various types of boilers, their operation, and maintenance; types of liquid and solid fuel; various methods of boiler radiation; operational and safety boiler fittings; lubrication of auxiliary machinery; most important tools and their uses; types of mechanical work involved in machine repair and maintenance; and handling of installations using liquid fuel.

Duties: Maintains fires in boilers and removes ashes; fires liquid-fuel boilers; cleans and replaces spray nozzles; removes oily sediments from boilers; cleans oil filters and heaters; inspects and lubricates ship's cranes when ship is in port; opens and closes ship tanks and cleans tank covers; cleans interior of boilers; and cleans and paints engine installations.

Minimum period in grade: 2 years.

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Group IV - Skilled Seaman Steamship Engineer

Qualifications: Must have a basic understanding of: all types of steam engines and auxiliary machinery and their operation and maintenance, various types of pumps, stirring gear, ventilators, anchor chains, cargo loading, condensers and evaporators, types of lubricants and method of lubrication of main and auxiliary engines, and the heating of crew quarters.

Duties: Lubricates ship engines, operates all auxiliary machinery, and is responsible for its proper functioning; supervises temperature level prescribed for operation of machinery; inspects and regulates boiler pipes; reads tank gauges; and directs pumping out of tanks.

Minimum period in grade: 3 years.

Group V - Foreman Steamship Engineer

Qualifications: Must know all work connected with maintenance and operation of boilers and main and auxiliary engines; must be able to handle all tools for work on boilers; must have a knowledge of the basic principles of applied electricity; and must know the characteristics of fuels and lubricants used in the ship's machinery, their classification, and the rules for their storage.

Duties: Directs the maintenance of all machinery; organizes daily work; assigns duties to seaman? engineering personnel; manages the engineering supply room; is responsible for the fuel, oil, and drinking-water supply, and for the level of water in tanks; supervises operation of auxiliary engines; is responsible for cleanliness and order in the engine room, boiler room, passageways, and all other engine areas; and has charge of fire-fighting equipment in engine areas.

Engineer Service on Motor Ships

Group II - Semitrained Seaman Diesel Engineer

Previous work experience: 9 months as an unskilled deck seaman.

Qualifications: Must know methods of cleaning equipment and its operation, types of motor fuels and lubricants, general construction of boilers, and procedures in case of fire.

Duties: Removes waste oil produced in the operation of main and auxiliary engines or tanks, and takes it to place assigned; cleans engines, ladders, engine areas, washrooms in engine areas, oil tanks, steel fixtures, ducts, smoke chambers, and pipes; removes rust; and removes deck plates when pipes are to be inspected.

Minimum period in grade: 15 months.

Group III - Trained Seaman Diesel Engineer

Qualifications: Must know how to fire boilers and maintain the auxiliary boiler and fire-fighting equipment; must have a knowledge of boiler safety devices, the construction of main and auxiliary engines and the cleaning of their interiors, the mechanical functions of all auxiliary equipment, and precautionary measures to be observed in the cleaning and maintenance of easily damaged machine parts; and must know how to use tools for all mechanical work and cleaning of equipment.

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Duties: Operates liquid-fuel boilers, keeps engines running, and pre-heats fuel oil; inspects pipes under engines for leaks; cleans interiors of boilers; cleans and keeps in good order the area where the auxiliary boiler mufflers, evaporator preheaters, separators, filters, and housings of motors and cranes are located; and prepares calcium chloride for refrigeration equipment.

Minimum period in grade: 2 years.

Group IV - Skilled Seaman Diesel Engineer

Qualifications: Must know how to cool the engine heads; must have a knowledge of engine-head valves, injector and emergency valves, and inlet and outlet valves; must know how to dismantle the pistons and slip rings of generators, bearing housings, crankshafts, and cylinder heads; must have a knowledge of thrust bearings; must know how to inspect the injector pumps and put auxiliary diesel engines, pumps, and filters into operation; and must know how to perform all mechanical work connected with keeping the engines in operation.

Duties: Supervises oil level in main and auxiliary tanks and water level in coolant tank and observes temperature and color of exhaust gases, temperature of outlet vents, nozzle operation of individual cylinders, automatic lubricators, temperature and pressure of incoming and outgoing water and oil in the cooling system, air pressure, operation and pressure of pumps, duct chambers, water tanks, and separators or centrifugal lubricant, and diesel-oil purifiers.

Minimum period in grade: 3 years.

Group V - Seaman Foreman Diesel Engineer

Qualifications: Must know how to operate auxiliary appliances and diesel engines, underwater valves, drinking and salt-water tanks, and fuel oil and lubricant tanks; must have a knowledge of electric power switchboard and how to operate it; must know the operational limits of auxiliary engines and procedures to follow if engines are overloaded; must be able to use mechanical tools and equipment for over-all engine maintenance; must know types of lubricants and their uses, and their maintenance, storage, and purification; must know the types of material consumed and how effective they are; and must be able to keep a record of materials used and operation of individual auxiliary installations over a period of time.

Duties: Operates auxiliary machinery and diesel engines; inspects level of fuel oil and drinking water in tanks; is responsible for the proper lubrication of auxiliary engines, moving parts, and pumps; inspects level of oil in engine crankcases; is responsible for maintenance of all valves and tanks; enforces safety regulations and economic operation of engines; makes work assignments for the seamen; issues necessary materials; and keeps engine operation record.

Ship Engineers

Group IV - Skilled Ship Engineer

Previous work experience: 2 years as a trained metalworker, or trained seaman diesel engineer.

Qualifications: Must be able to differentiate between two- and four-cycle engines and diesel engines; must have a knowledge of the functioning of internal-combustion engines; must know how to service up to 150-horsepower

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engines; must be able to handle tools and make minor repairs on engines; must have a knowledge of main types of engine fuels and lubricants; and must know how to fill air cylinders.

Duties: Cleans and oils engines; repairs engines by grinding valves, replacing gaskets, etc.; services up to 150-horsepower engines; and, supervises operation of cranes.

Minimum period in grade: 3 years.

Group V - Foreman Ship Engineer

Qualifications: Must have a knowledge of the theoretical principles of construction and practical operation of ship engines, structure of and materials in various engine parts, and use of these parts and their functions; must be able to dismantle an engine completely and clean it internally, locate damage, and replace parts; must know how to operate all the electrical equipment of engine installations up to 150 horsepower; must be able to make sketches of engine parts; and must be able to perform engine-room administrative work.

Duties: Does major engine repairs and basic engine maintenance work; operates engines up to 150 horsepower; is responsible for procurement, storage, and consumption of oil and lubricants; assists in engine repair operations in shipyards; does administrative work; and keeps records of work done.

Technical Branch Divers

Group I - Unskilled Diver

Previous work experience: 3 months as a general laborer in the merchant marine, or in shipbuilding or underwater construction work.

Qualifications: Must be able to row and swim; must know the names of tools and equipment; must be able to identify marine craft; and must be able to operate small craft without engines.

Duties: Maintains divers' boat; works hand-operated air pumps; and does all work not requiring special experience ashore connected with diving or preparatory to diving.

Minimum period in grade: 6 months.

Group II - Semitrained Diver

Qualifications: Must be able to identify service craft and to recognize their markings; must have a knowledge of diving equipment; must know how to put equipment on a diver and take it off; must know the number of revolutions required per minute with a hand-operated pump to supply air to a diver at normal working depths; and must be able to supply tools and materials diver needs under water, and to secure barges having no crew.

Duties: Prepares diving equipment; using special equipment for this purpose, provides the diver with necessary tools and materials; supplies air to diver under the supervision of an assistant diver; in simple underwater work, accompanies a trained diver in order to get accustomed to working underwater; and, when there is no underwater work, supervises group charged with carrying diving equipment, tools, and other material from divers' boat.

Minimum period in grade: 15 months.

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Group III - Trained Diver

Qualifications: Must be able to operate vessels with diving equipment and get them to the working place, do simple repairs on diving equipment, assist a senior diver in underwater work in shallow water, supervise the use of the manometer, do underwater work (under the supervision of an experienced diver) in shallow water during calm weather, and operate an underwater telephone; must know diving signals and emergency procedures; must be able to determine the quantity of air to be supplied to a diver on the basis of air bubbles at the surface, and the procedure used to approach a diver in an emergency, especially when the lines become tangled; must know how to use the first-aid chest; must have a knowledge of underwater communications, how to overcome effects of water pressure, and the physiology of diving; must know the construction of air valves, including inlet and regulating types; and must have a knowledge of construction work, especially that pertaining to coastal construction and repair operations, as well as related underwater work.

Duties: Directs divers' boat to work site; determines the exact position of the lifeline in the boat; helps the diver up the ladder and helps him put on the diving helmet and lead weights; cleans the facepiece of the helmet; gives the order to start pumping air and closes the facepiece; follows the diver's underwater work by means of the signal line, maintaining liaison by signals or telephone; communicates the diver's orders to crew members and is responsible for execution of the orders; keeps account of the type and duration of underwater work and determines the time to start decompression; renders first aid to the diver in case of emergency or accident; and, under the supervision of an experienced diver, assists in underwater photography, demolition, excavation, ground leveling, concrete work, etc.

Minimum period in grade: 18 months.

Group IV - Skilled Diver

Qualifications: Must have a knowledge of underwater procedures for recovering lost objects; must know how to tie lighter-than-water objects under water, perform seamen's work with lines, cables, and chains on the surface and under water, loosen objects embedded under water; in salvage assignments, must know how to inspect submerged objects under water and determine the amount of silt cover, the degree of damage suffered, its position, and type; and must have had some experience in underwater construction work with concrete and the use of such equipment, etc.

Duties: Searches for sunken objects; handles all chains, steel cables, etc. used in salvaging; releases sunken objects from silt and sediment covering them; operates a hydraulic excavator to remove hard layers of silt or dig a tunnel under sunken objects; uses an iron bar or pressure hose to place chains under a sunken object; digs tunnels, frees the propeller from entanglement, and makes fast objects to be salvaged to cables and chains; when not doing underwater work, makes simple parts for caissons and concrete block forms; supervises the mixing and mixtures of concrete for caissons and concrete blocks, etc.

Minimum period in grade: 2 years.

Group V - Foreman Diver

Qualifications: Must have a knowledge of diving hazards, such as air embolism, anoxia, nose and lung hemorrhages, edema, exhaustion, oxygen poisoning, and caisson diseases and their treatment; must be able to do major repairs on diving equipment; must know the principles of using diving equipment, the

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length of time permitted for deep-sea diving and the time needed for decompression; must be able to assist the diver who is working in great depths or in a freely floating position; must know safety measures for dangerous diving work; must be able to do decompression above water, operate above-water and underwater cutters, handle explosives and mines, and supervise underwater work in a prone position; must know the regulations for avoiding collisions in salvage operations at sea; must know both inland shipping regulations and basic navigation regulations; must know the basic principles of hydrography, shipbuilding, and the raising of sunken vessels; in underwater construction, must be able to disengage blocks and tackle from caissons and must have a knowledge of shore construction and repair and underwater work of shore construction and repair.

Duties: Assists diver in difficult and dangerous operations, especially those at great depths or in a freely floating position; inspects the bottom; does underwater demolition to free sunken objects and remove obstacles to navigation; in construction work, levels the bottom; when not doing underwater work, does masonry work on piers above water.

Minimum period in grade: $2\frac{1}{2}$ years.

Group VI - Specialist Diver

Qualifications: Must know the basic principles of construction of bridges, piles, shore embankments, etc., and oceanography; must know the physiological effects of diving; must be able to fasten steel cables and chains to lifting devices (cranes, hoists, pontoons); must know the method for raising objects by using lifting machinery and presses; must have a knowledge of the principal meteorological instruments and underwater orientation devices; must be able to give an expert opinion on findings under water; and must be able to prepare a special concrete mixture for underwater repair work and do shore masonry and carpentry.

Duties: Proposes methods for raising small sunken objects for salvage, and plans for the equipment needed; supervises underwater concrete work and repairs piers, using special concrete mixture; supervises placement of new piles and removal of old piles and their parts; supervises demolition of underwater portions of piers; and places necessary signs and markers indicating exact position of new piles.

Minimum period in grade: 3 years.

Group VII - Senior Specialist Diver

Qualifications: Must know how to allocate equipment for the fulfillment of assignments, operate equipment used in cutting, demolition, depth diving, drilling, welding, and riveting; must be able to use all kinds of explosives underwater; must be able to operate automatic drills, draw and read blueprints for underwater work, and draw sketches of underwater findings; must be able to prescribe the procedure for lifting a sunken vessel and the salvage equipment and materials to be used.

Duties: Does underwater demolition; supervises simple construction work ashore; and participates in carrying projects to completion.

Minimum period in grade: 4 years.

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Group VIII - Master Diver

Qualifications: Must be able to give work instructions and plan for equipment and material needs; in salvage assignments, must be able to organize work of salvaging and raising sunken vessels and towing them to a designated working area, and organize and supervise smaller construction projects.

Duties: Does all types of diving work, organizes and supervises salvaging and raising of sunken vessels; and manages small construction projects.

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